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SPECIALTY STEEL'S NEW APPROACH - CUT PRICES

LTV: The New Powerhouse in Steel

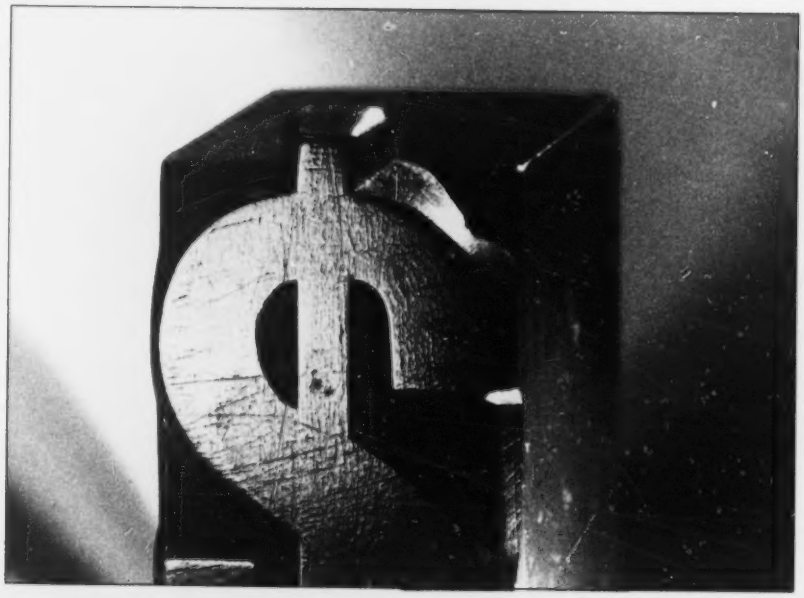
U.S. Fights Back in World Trade

Plus In Plant Spotlight

And The Hot Spot

JUNE 18, 1984 VOL. 227, NO. 12

IRON AGE METALS PRODUCER



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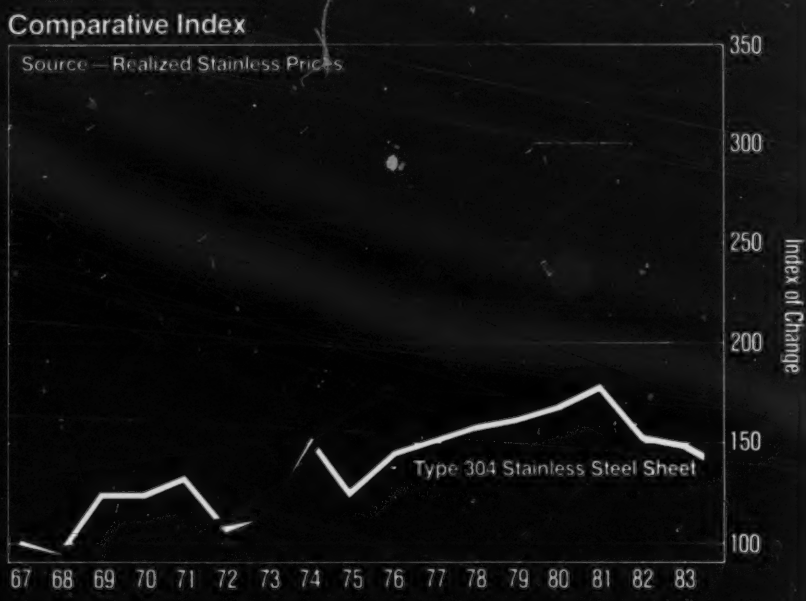
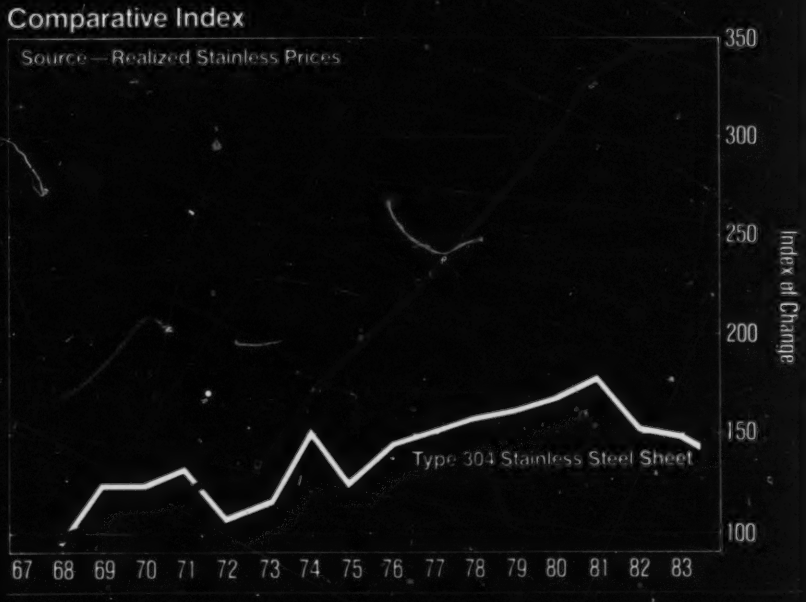
SPECIALTY STEELS NEW APPROACH—

CUT PRICES



The effect of pricing on specialty volume is difficult to identify because there are so many things happening at the same time. One thing continues to remain significant however, that being the price of stainless steel sheet which still hovers at a low level compared to the prices of competitive materials.



GEORGE J. MCMANUS

There are new opportunities (or threats) and as a result a new kind of steel pricing has developed.

"We are replacing aluminum in the trim area because of price," said Richard P. Simmons, president of Allegheny Ludlum Steel Corp.

Mr. Simmons is referring to the trim on autos. He is saying the relative stability of stainless flat rolled prices is producing gains in the auto market and elsewhere.

"Everything else in the metals field has inflated five times faster than stainless," he said.

The result has been a demonstration that steel products can be subject to price-volume elasticity. The stretching action, said Mr. Simmons, is increasing the stainless content in autos to 65 pounds a car. This kind of gain makes him bullish about the future.

"We look for continued growth of the stainless flat rolled market of between 3½ and 4 pct a year."

All this is important because the whole steel industry, carbon and specialty, has been testing the effect of price on volume. In the old days, there was supposedly no effect. Steel's position in metalworking was so dominant there was little opportunity to grow by displacing other materials.

Now, aluminum and plastics are providing targets in consumer markets. There also is imported steel with its 20-25 pct share of the U.S. market.

In the specialty field imports accounted for half the tool steel and stainless rod in 1982.

There are new opportunities (or threats) and a new kind of steel pricing has developed. More specifically, the mills are making deeper price cuts than ever before. The price realization of National Steel Corp. fell from $494 a ton in 1982 to $480 in 1983. Adjusted for inflation, National's prices last year were down 12 pct from 1979.

As the stainless statistics indicate, the specialty field has long history of competitive pricing. "There's always been far more price competition in stainless steel than in carbon steel—up until the last couple of years," said Mr. Simmons.

At Carpenter Technology's new rotary forge facility can produce ingots and billets up to 25.5 in. and weighing up to 17,600 lbs.

Industry Stainless Sheet and Strip (Domestic Market)

NET TONS SHIPPED PER MONTH

	A.I.S.I.	EXPORTS	IMPORTS	DOMESTIC MARKET
AVG. 1983	72,891	1,588	7,356	78,659
1984				
JANUARY	86,105	1,039	7,940	93,006
FEBRUARY	78,854	1,964	3,873	80,763
MARCH	92,593	1,737	18,783	109,639

Index* Comparison Sheet and Strip vs. Consumer Durable Production

	STAINLESS SHEET AND STRIP	CONSUMER DURABLE PRODUCTION
JANUARY, 1983	127.8	131.6
DECEMBER, 1983	181.4	158.4
MARCH, 1984	215.9	163.3

*1967 = 100 Source: Allegheny Ludlum

Specialty prices haven't recovered from the particularly tough competition of the last two years. "Prices are depressed and well below pre-recession levels," said Adolph J. Lena, chairman of AL Tech Specialty Steel Corp. and head of the specialty industry's joint group.

For carbon steel, the container industry has the potential for an interesting price confrontation. Aluminum has taken over the beverage can market. According to a mill official, steel beverage material now sells for $10 per 1000 cans under aluminum. After fabrication, he said, the edge for steel is $4 or $5.

In the medium structural field, three new mini-mills are competing vigorously with imports. This has meant meeting import prices that have been as much as $150 a ton under the official domestic level.

The effect of pricing on specialty volume is difficult to identify because so many things are happening at the same time. There are, for example, market gains based primarily on functional considerations.

In this connection, Mr. Simmons notes that stainless is benefitting from the automotive "drive toward quality and durability." To get better performance from small engines, the auto companies are going to higher temperatures. This has meant extensive use of stainless in the exhaust systems.

"Several models are switching over to 100 pct stainless including the exhaust manifold," said Mr. Simmons.

Other factors include the strong recovery of the consumer market, the slow improvement in capital goods, increased defense spending, and the imposition of import quotas on tool steels, stainless rods and stainless bars.

The various elements have produced some degree of improvement in all the specialty grades, including the aerospace alloys. "Quite frankly, our mills at Reading and Bridgeport are busy now, operating at about 90 pct of capacity," said Paul R. Roedel, president of Carpenter Technology. Carpenter makes such products as stainless bars and related steel goods.

Inventory Adjusting

In most product lines, there is now a pause as users do some inventory adjusting. Mill officials believe the basic trend is still upward.

Stainless flat rolled has had a sensational year so far. "When you throw in imports, we were shipping at over a million ton annual rate in the first quarter," said Mr. Simmons.

This surge was triggered by consumer durables, but stainless rose much more than durables. There was inventory building and a correction is now being signaled.

"We had a sharply declining order rate in April and May," said Mr. Simmons. "There's an inventory adjustment going on."

The inevitability of this adjustment shows up in a chart which plots stainless flat rolled shipments against consumer durables output.

This chart also shows a changing relationship. After tracking very closely in earlier years, the stainless curve has consistently topped the durables curve since 1979. The current gap is exaggerated by inventory, but there has been a gap in some periods of stable inventory.

"What this reflects in my opinion is the increased market share of stainless in consumer durables," said Mr. Simmons. He thinks price has been one factor in the increase.

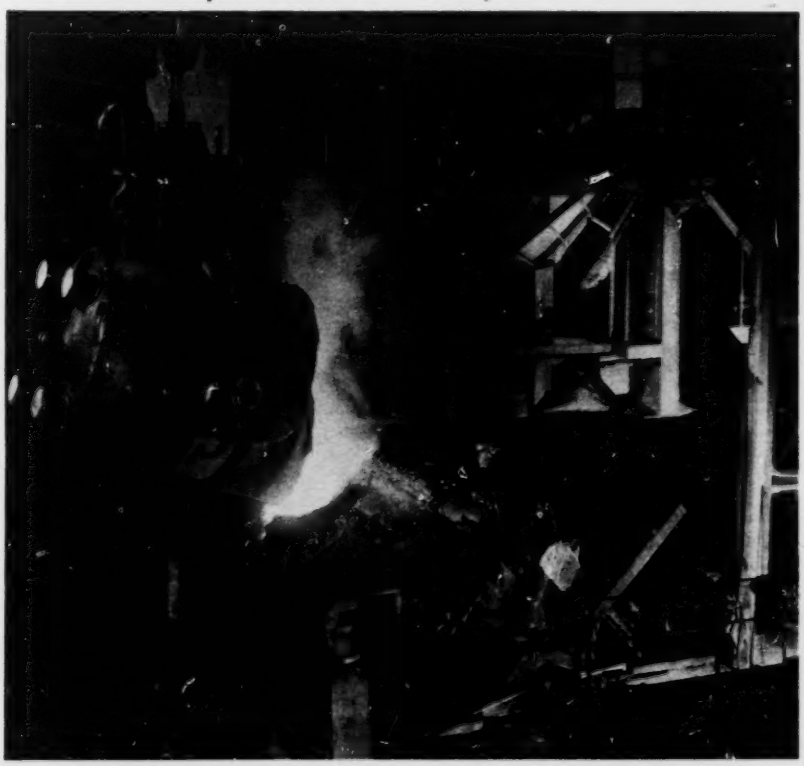
None of this means the destructive competition of the last two years has reflected a voluntary trading of price for volume. "You're not going to make it up on volume when you're giving the product away," said David M. Roderick, chairman of United States Steel Corp.

The mills are now trying desperately to get their prices up to profitable levels. Steel producers would like to make a little money, but there is growing awareness that cost-plus pricing is a thing of the past.

"If you want to survive, you'd better get efficient," said Mr. Simmons, "and if you want orders, you'd better be price competitive."

Specialty producers feel they have been living by these precepts for some time. The industry's competitive instincts are shown in one major product group.

"Stainless rod and bar have improved significantly," said Dr. Lena.



Steelmaking at Allegheny Ludlum's Brackenridge facility is benefitting from the automotive drive for quality and durability.

Volume is back close to the levels of 1978 and 1979, he said, but prices remain at 1982 levels.

With regard to efficiency, the specialty people feel they have demonstrated their world leadership. In countless speeches and presentations, they have argued that low import prices are based on government subsidies, not technical superiority.

Cited as an example of U.S. leadership is the AOD process for stainless steel. This was developed in this country and first used here.

"It's been accepted throughout the world," said Joseph M. Fallon, director of manufacturing for Joslyn Stainless Steels.

Joslyn, which was one of the earlier AOD pioneers, has shared in the recovery of the stainless bar and rod market. Like most others, Joslyn is now experiencing an order dip.

Foreign mills still haven't caught up with U.S. producers on AOD, said Dr. Lena. He said this process is used for 90 pct of the U.S. stainless compared to 70 pct abroad.

A further extension of secondary refining is now underway at Latrobe Steel Co. Latrobe is using an AOD installed last year for tool steels and vacuum melted alloys.

"We're putting everything through," said Marshall Schober, president of Latrobe. Latrobe went to AOD, said Mr. Schober, partly because the "specs for aircraft structural alloys were headed in that direction.... It's upgraded the quality of aircraft structurals."

The duplex treatment is being used to increase yields, reduce materials costs and provide greater precision. "All air melting means to us now is liquifying," said Mr. Schober.

He said the revived aerospace business has provided a strong lift for vacuum melted alloys. This has been mostly defense work but the commercial end of the market is starting to move up.

Tool steels are in an early stage of recovery. "There has been an improvement over the past six months," said Charles H. Emery, president and general manager of Braeburn Alloy Steel. "We wouldn't consider things rosy yet."

Tool Steel R&D

Mr. Emery sees significant new technology for tool steels in the form of powder metallurgy and metal coatings.

At Jessop Steel Co. demand for stainless plate is up 20 pct from last year. "Business is better than it's been in a couple of years," said C.R. Moulton, commercial vice president for Jessop. "We're very pleased so far with our performance."

Mr. Moulton called demand for cold work tool steels "very strong". Like most other specialty producers, he reported an order dip in May.

Also dipping in May were orders for stainless sheet at the Butler, Pa., plant of Armco Inc. "We're seeing some softening of stainless flat rolled," said David E. Todd, president of Armco's specialty division. "It could be inventory."

At Baltimore, Armco produces stainless and other alloys in bar form. "We think that market is on the upswing," said Mr. Todd.

The Baltimore plant recently began operating a precision rotary forge. "It's done everything we expected," said Mr. Todd. "We're quite happy with it." (Carpenter Technology and Teledyne Allvac have also installed big rotary forges.)

The Baltimore plant is operating the nation's first horizontal continuous caster. Mr. Todd indicated progress had been satisfactory, but that the plant was still in the break-in stage.

"We have had to make some design changes," he said.

Armco's Butler plant continuously casts all the slabs for its flat rolled products. All the domestic producers except Republic Steel use continuous casting for stainless sheet and strip.

"I would estimate that over 70 pct of the stainless steel in the United States is continuously cast," said Mr. Simmons of Allegheny Ludlum.

He went on to enumerate some of the lesser known technical advances. "I'm talking about the myriads of programs we have for least-cost charge, for alloy shaving, for increasing the speed of annealing lines," he said. "Hell, we make stainless steel for less than nine man hours a ton."

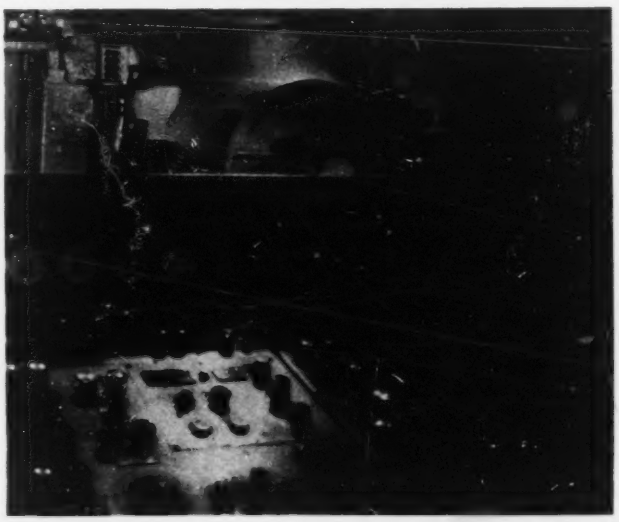
Photo below shows Allegheny Ludlum's New Castle, Ind., Sendzimir reversing cold mill for stainless steel.

STAINLESS & TOOL STEEL SHIPMENTS 1973-1983

(thousands of net tons)

Year	Stainless	Tool Steel	Stainless Imports
1983	1,137	46	190
1982	894	44	203
1981	1,163	67	191
1980	1,127	79	153
1979	1,361	95	169
1978	1,191	92	200
1977	1,118	85	178
1976	1,019	76	175
1975	757	69	167
1974	1,345	113	176
1973	1,134	111	128

Source: AISI



Mergers

The specialty companies are very much involved in the steel industry's restructuring. Armco has consolidated its bar, sheet, and electrical operations under Mr. Todd at Butler.

Allegheny Ludlum has acquired Guterl Special Steel Corp., which was bankrupt. It might appear that Allegheny Ludlum is coming full circle. The company shed its stainless bar division, which became Al Tech. Now, it seems to be acquiring a similar operation.

Mr. Simmons said this appearance was misleading. "We don't intend to make bar or rod," he said. "We intend to make superalloys and electronic alloys." The Guterl plant will be able to supply Allegheny Ludlum with vacuum melted and electroslag melted semifinished.

One big consolidation came when Jones & Laughlin Steel Corp. acquired the Midland, Pa., plant of Crucible Steel. According to the Justice Dept., that made J&L the nation's largest producer of stainless flat rolled with more than 37 pct of domestic capacity.

The merger with Republic would have added another 9.9 pct but after antitrust objections, it was agreed that Republic should dispose of its stainless finishing operation in Massilon, Ohio. A full 20 companies have checked out Massillon. "Armco has an interest in the Massillon facility," said Mr. Todd.

Under the merger consent degree, Republic must supply Massillon with semifinished stainless for 10 years. Cyclops Corp., which once tried to acquire the Midland plant, has argued in court that the supply arrangement has serious flaws.

Imports

"It doesn't seem as though it's ever settled," said Dr. Lena of Al Tech.

He was talking in May about government curbs on specialty imports. After much agitation and litigation, domestic producers got the Reagan Administration to apply quotas and tariffs on imports. The program is supposed to run four years, but the mills must argue their case again in annual reviews.

This is one more chapter in a running battle that never seems to produce a permanent result. Specialty quotas were established in 1976 but lifted in 1980. In late 1981, the domestic companies sought relief under Section 301

U. S. Specialty Steel Should Move to the Export Market

"...we see a continuing and growing world need for specialty steels and metals.

The inherent properties of specialty steels will continue to be required to meet critical applications in the existing delivery systems and in the developing systems designed to meet growing human needs throughout the world.

The question to be answered by the specialty steel industry of the United States is: Will this modern, competitive, technically up-to-date part of the world specialty steel industry be able to maintain its position of eminence and participation in that growth?

Our judgments say, yes, but it will not be easy, and it must be a cooperative. Let me make a case for the true economic competitiveness of specialty steel produced in the United States.

It is true that many of the critical raw materials consumed in making specialty steel are not indigenous to the United States. It is also true that the source of supply for certain of these material can be relatively unstable.

Our judgment is that those raw materials, which are generally traded in dollars, will be driven into the free market because the countries of origin are very much dependent on doing so for their economic welfare and security. In that environment, our U.S. specialty steel industry can, and does, secure its raw materials without economic disadvantage compared to other producers.

In the area of energy required to convert those raw materials into steel, we are either fully cost competitive or enjoy a certain cost advantage. There is, however, a concern. The current nuclear economic fiasco we have thrust upon ourselves could reduce or eliminate some of our country economic advantage in the electrical energy area.

The third key element of cost relates to the competitive capability of the tools—plant, buildings machinery, and equipment in place in our specialty steel industry.

By any analysis, our U.S. specialty steel industry facilities are as modern, technically up-to-date and as efficient as any in the world.

Fourth and perhaps most importantly, are our people costs. It is true that the American specialty steel hourly worker is right up there with other hourly steelworkers. The employment cost per hour worked exceeds $20. Our specialty steel salaries support people are paid rates that are generally competitive in the U.S.

In 1983, steps were taken by many specialty companies to significantly reduce the rate of increase in hourly costs through August 1986. That effort was important and must be extended if we are to narrow the gap with the world and the competitive industrial rates in the U.S.

...the measure of true economic cost of labor in the product produced is impacted not only by the cost per hour worked but also the effectiveness and motivation of the person working and the efficiency of the tools the persons work with. In other words the control

Remarks by Paul R. Roedel
President, Carpenter Technology

factor is not the cost per hour but the cost per unit or pound produced.

"We have worked hard to attain efficiencies to offset much of that higher cost per hour level.

On balance, looking at all factors, we believe our U.S. Specialty Steel Industry, measured by the true economic cost of product, is competitive. Indeed, given a better balance of economy systems in the world, our industry should be an export oriented industry."

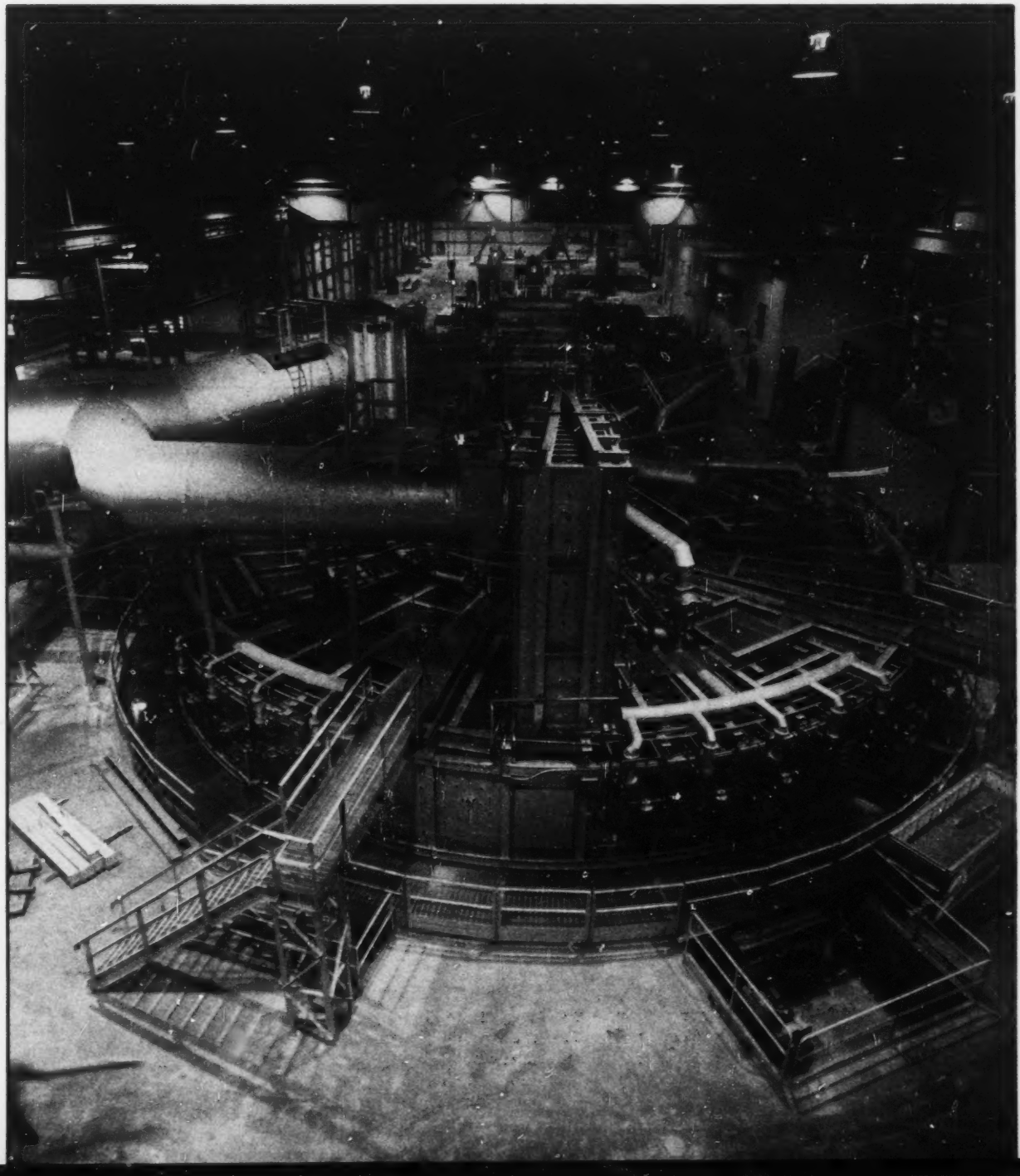
of the Trade Act.

The position of the industry was sustained by the Reagan Administration, but the remedy proposed was another long proceeding under Section 201 of the Trade Act. Finally, in July of 1983, the Administration imposed quotas and tariffs on specialty imports.

Needless to say this action brought strenuous objections from foreign specialty producers. European officials have been particularly vehement in demanding removal of the Reagan program.

"I am enraged by the ludicrous request by the Europeans to terminate this progam prematurely," said Dr. Lena. "We have proven them guilty of dumping. We have proven them guilty of subsidies. Let me suggest that they first get their houses in order."

In their 1983 drive, the domestic companies sought quotas for all products. Quotas were established for tool steel and stainless bar and rod. For stainless sheet, strip and plate, the government increased tariffs but set no



quantity limits.

The specialty companies expressed appreciation for the quotas, saying they would help, but complained that the tariffs would have no effect. It has worked along these lines.

"Certainly, the quotas are helping tool steel," said Mr. Moulton of Jessop.

The help was delayed by the low level of tool steel activity in 1983. The quota called for tool steel imports to drop from nearly 38,000 tons in 1982 to 22,400 tons in the first quota year. However, the tool steel market was so weak in 1983 that the reduced foreign tonnage remained a large percentage of the business.

With the recovery, the quota is becoming more meaningful. "It's just beginning to be effective," said Mr. Schober of Latrobe. Mr. Moulton looks for shipments of the domestic tool steel industry to rise from 45,000 tons in 1983 to 65,000 tons in 1984.

In stainless, the contrast between quotas and tariffs shows up very clearly. "There has been a definite positive impact on bars," said Mr. Todd of Armco. "The tariff on flat rolled has been ineffective."

Carpenter Technology reports that its mills are operating at 90 pct of capacity.

In the first quarter, stainless bar imports of 6,300 tons were down from 10,000 tons in the first quarter of 1983. There was a similar drop for rod.

On the other hand, stainless sheet and strip imports jumped from under 18,000 tons in the first quarter of 1983 to 30,000 tons in the 1984 quarter. The foreign flow was moderate early in the year, but it zoomed in March.

"The March numbers are just scary," said Mr. Simmons. "18,000 tons in the month of March, alone, on sheet and strip."

With their own shipments booming, however, domestic producers of flat rolled stainless might have trouble showing they are being injured by imports. The law operates on the Robin Hood theory, said Mr. Simmons.

After years of arguing in Washington, he is mildly optimistic. "We have moved from what I consider to be the educational phase to now the solution phase," he said.

There is still a hard core of opposition in what Mr. Simmons calls the "free trade Mafia." Any form of trade restraint, he said, will be opposed by the State Department, the Treasury Department, the Office of Management and Budget, the Justice Department, and the Council of Economic Advisors.

A new worry for some companies is the rise in electrical steel imports. Foreign shipments have doubled in each of the last two years.

"They're approaching 6 pct of the market," said Mr. Todd of Armco.

He noted that grain oriented electrical steel was in No Man's Land as far as trade was concerned. It is not included in either the carbon steel agreements or the specialty programs.

The Japanese are among those active in rapid solidification and amorphous metals. The amorphous material is a threat, said Mr. Todd, but he noted that there is constant upgrading of the silicon steels. He has not seen anything of the 6 pct silicon steel that has been under development in Japan. A Japanese source said this had been put on the back burner. □

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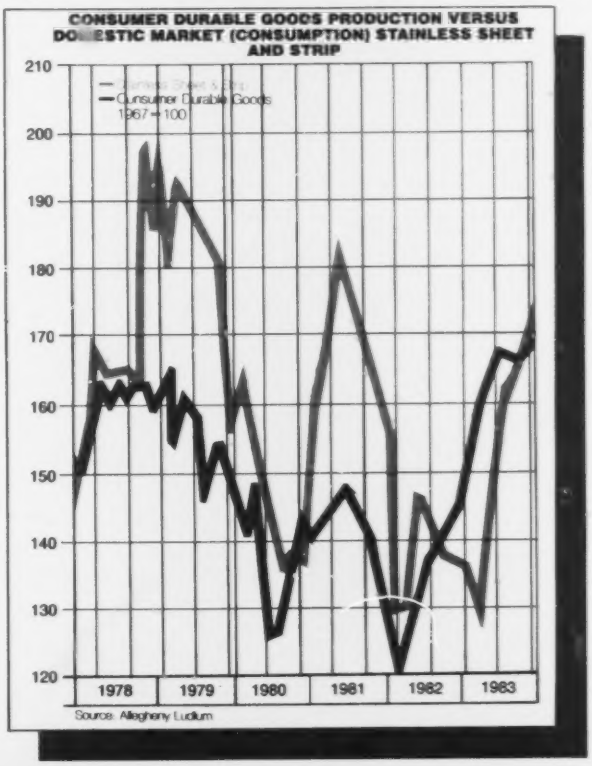


MANAGEMENT CHALLENGE:

U.S. INDUSTRY FIGHTS BACK IN WORLD TRADE

U.S. Manufacturers learn a secret: Become world-class competitors or die.

BY JOHN D. BAXTER

U.S. manufacturers have been taking a thumping in world trade.

There are a number of reasons—some are of U.S. industry's making, some not of its making.

But for whatever reasons, many U.S. manufacturers, industry-by-industry and company-by-company, are now reshaping themselves into new, tough world-class competitors.

This 'world-class' competitive status is now critically important to any company even if it sells its products only in domestic markets. That's because foreign-made goods are flooding U.S. domestic markets in a mounting fury. No market is 'safe.'

And, of course, if a U.S. manufacturer wants its share of global markets, there is no way it can succeed unless it is a world-class competitor in the products it makes and markets.

A look at the data on the recent collapse of this country in

world trade makes it clear why U.S. companies must redefine what being competitive really means.

In the past 8 years—all 'loser' years—the U.S. ran up a trade deficit in goods totaling $255 billion. That's the amount that imports into this country exceeded exports of U.S. goods to foreigners.

It's gotten worse lately.

A single-year record $37 billion deficit was rung up in 1982.

But 1983 topped that. The country was hit with a $62 billion trade deficit.

And to top it all off, the government's own forecast of the trade deficit for this year is $110 billion.

That's bad. So bad, the world has never seen anything like it.

But that's for trade in all goods.

How about manufactured goods? That's where this country has always been king-of-the-hill. And that is the key sign of a nation's lasting trade strength.

It appears the bad times have caught up with U.S. trade in manufactured goods.

In 1980-81 the U.S., reflecting the traditional dominant strength of its manufacturing base, ran up a world trade **surplus** in manufactured goods total of $31 billion. In 1982-83, the this country ran up an unbelievable $36 billion **deficit** in manufactured goods trade.

No Escape

With the manufacturing trade balance deep in the red, more and more U.S. manufacturing executives are being dragged into the world trade arena to face the lions of foreign competition.

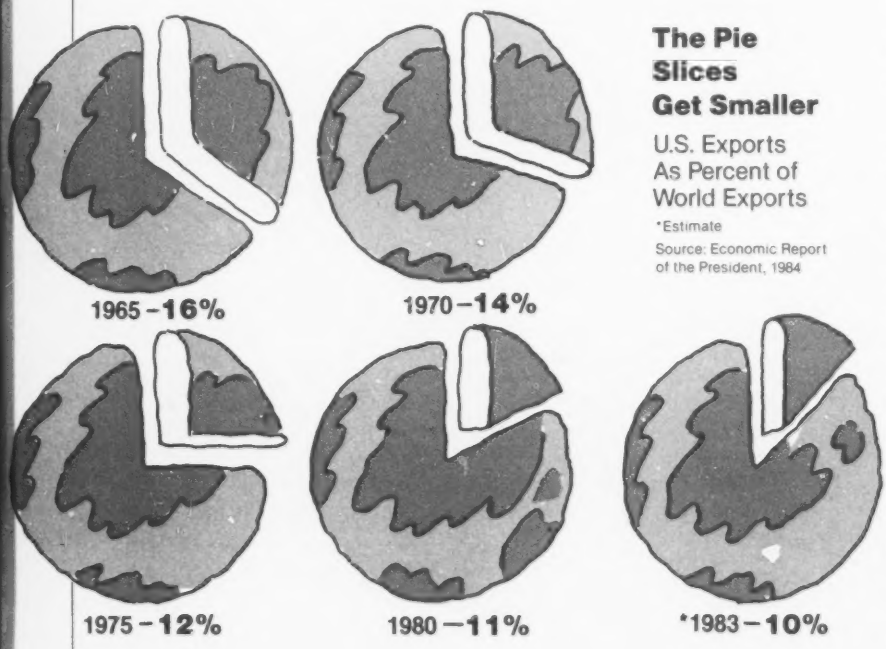
U.S. Commerce Secretary Malcolm Baldrige recently drove this point home. He said, "Overall, three quarters of all goods produced in the U.S. are subject to foreign competition—up from one-quarter a decade ago."

Added Mr. Baldrige, "And now, our last bastion of export strength—high technology—is under attack."

Bruce Scott, a Harvard University professor, has pointed out that the U.S.'s vaunted world edge in high-tech is now questionable. In a analysis he made he found that in the years 1970-80, the U.S. share of world markets in 7 of 10 key high-tech categories fell.

"U.S. exports grew rapidly in high-tech," he said, "but world markets grew even faster and the U.S. lost market share."

The U.S. is running in the red in trade with all major regions of the world, as well as in many product lines. For example, here are the annual rate deficits in U.S. trade for the first quarter this year: Non-OPEC developing countries, $39.6 billion; Japan, $30.4 billion; Canada, $15.2 billion; Western Europe, $10.8 billion; OPEC countries, $10.4 billion.



The Pie Slices Get Smaller

U.S. Exports As Percent of World Exports

*Estimate

Source: Economic Report of the President, 1984

Why the Collapse?

All the recent bad news on the U.S. in world trade points to a startling loss of competitiveness. Why the collapse? Are the tough times here to stay?

One group of top analysts that has wrestled with the problem is the President's Council of Economic Advisers. Their findings result in a resounding 'not to worry.'

The council, in its Economic Report to the President last year, looked at underlying national strengths and the long-run performance of the U.S. economy in relation to other leading industrial nations. It concluded:

"The overall performance of the U.S. ...does not suggest a long-term problem of competitiveness. The shift from persistent trade surplus to persistent deficit which occurred over the last decade is, however, often misinterpreted as a sign of an inability to compete."

The council added: "Although the recent appreciation of the dollar has created a temporary loss of competitiveness, the U.S. has not experienced a persistent loss of ability to sell its products on international markets, in fact, in the 1970's the U.S. held its own in terms of output, exports and employment.

In the council's 1984 report to the President, it pinpointed sources of the U.S. trade deficits.

The report stated that recent increases in U.S. trade deficits can be broken down into three parts.

"First, the appreciation of the dollar has made it difficult for U.S. firms to compete in world markets.

"Second, there has been a substantial loss in net exports to debt-troubled countries.

"Third, the U.S. is experiencing more rapid growth in income, and therefore, in imports, than are Europe and Japan."

The report concluded, "These three factors concern economic perturbations that, though large, are believed to be temporary."

The Killer Dollar

It is easy to see why the council listed the increased strength of the dollar as the number one cause for the recent whopping deficits in goods trade. A rising dollar makes U.S.-made goods costlier for foreigners, and it makes their goods cheaper for Americans.

"As of December 1983," stated the report, "the dollar had risen 52 pct against an average of 10 trading part-

ners' currencies weighted by their shares in world trade, relative to the average for 1980."

The council has estimated that every 1 pct real appreciation of the dollar adds about $2 billion to trade deficits.

Most trade experts, both government and private, pinpoint the strong dollar as, by far, the leading cause for recent massive deficits in U.S. world trade in goods.

And most agree, also, that the dollar is extraordinarily strong because of high interest rates in this country relative to currencies of other nations. These high levels are a magnet that draws investments from all over the world. And that great demand for dollar assets sends the dollar up in value.

Discussion flares into acrimonious debate when questions are asked as to the 'why' of high U.S. interest rates.

The Administration contends that rates are high because of the greater strength of the U.S. economy relative to other economies of the world. This, it says, draws foreign funds into the U.S. in great volume. The resultant demand for investment opportunities pushes up interest rates.

A Different View

But many U.S. business executives and economists blame record-high Federal budget deficits as the prime cause of high interest rates. They contend that government financing of the monstrous deficits has gobbled up U.S. credit markets to such an extent (now over 50 pct of all available credit), that there is no way for rates to go but up and up.

Typical of many U.S. business exec-

utives who subscribe to this view is Edson W. Spencer, chairman of Honeywell Inc. and head of the Business Roundtable's Advisory Council on Japan-U.S. Economic Relations.

"The most important action Congress can take to improve international competitiveness," he said, "is to reduce Federal budget deficits."

If dollar appreciation is the chief villain in wrecking U.S. trade, that certainly means the trade problem is not is not of the making of U.S. industrial managers.

Still, it makes little difference to U.S. manufacturers whether the world trade problem is of their making or not. They know as managers of individual companies, they must deal with things as they are. And the world competition is so critical to them that they must find ways to move fast to stay alive.

And U.S. manufacturers are moving—quickly and in big ways. In years past, the extent of U.S. companies 'going international' was to try to export more or to start up a small plant overseas. That's not enough in today's environment and the across-the-border slugging trade wars.

The New Warriors

Today, some U.S. manufacturers are completely restructuring their companies to 'go global'—and to become world-class competitors.

This is too much for most companies. More are turning to joint ventures, licensing agreements and the like. Joint ventures are really the hallmark in the drive for U.S. manufacturers to become world-class competitors.

An outstanding example of corporate restructuring to deal with the new 'one world era' is seen in Allegheny International, Inc. As chairman Robert J. Buckley said, "We changed in a few short years from a $450 million enterprise engaged principally in special metals to a global enterprise with $2.3 billion in sales."

He added, "We are in the business of manufacturing 'world class' products...and marketing them...on a global basis."

A case study of a company being restructured—in a different way and on a different scale—is seen at Russell, Burdsall & Ward Corp. When 61 pct of the industrial fastener market was grabbed off by imports, company president Jack Lohrman, sharply reduced its manufacturing operations and became a major distributor of both U.S. and foreign fastener producers. Today, 40 pct of its total sales come from distribution activities.

Still, for more companies the way to go has been through the joint venture.

Borg-Warner Corp. is one company that is turning to the joint venture idea. Chairman James F. Bere recently, in announcing an agreement with Clark Equipment Co., commented:

"Manufacturing and marketing are increasingly on a global scale,rather than within national boundaries.

"Combining companies in similar lines of business—whether within a single country or from more than one country—may be the best formula for survival and success in the worldwide competition that already exists and which will increase in the future."

Borg-Warner is currently exploring the possibility of a combination with Clark Equipment Co. to make and market manual transmissions. Clark itself is talking with Volvo BM AB (the construction equipment unit of Sweden's Volvo group), with the idea of combining their businesses into a new joint venture company.

Clark is making this international move because its chairman and CEO, James R. Rinehart found that, "Clark, along with much of American industry, has a 40 pct cost disadvantage compared to the low-cost, quality world competitor."

In driving this point home recently, he noted that, "Clark may be the only domestic lift truck manufacturer in a few years."

Mixed Counterattack

The very large U.S. manufacturers often have a number of joint ventures in action. General Motors, for example, has equity interest in the Japanese auto companies of Suzuki and Isuzu. And, of course, it has its well-publicized 50-50 joint venture with Toyota Motor Co. set to produce small cars in California. More than that, GM has an agreement with South Korea's Daewoo Motors, Ltd. to produce GM-labeled cars in that country.

Or, for another perspective in the wild border-crossing game in world competition, look at American Motors Co. (AM). Half-owned by France's Renault Co., AM has a joint venture to

Wage and Compensation Increases, Pct, in Major Collective Bargaining Settlements in Mfg.

Source: U.S. Labor Dept.

Unit Labor Costs in Mfg., Pct Changes, 1981-82

	National Currency	U.S. Dollar
U.S.A.	+ 13.8	+ 13.8
Canada	+ 29.2	+ 22.4
Japan	– 0.1	– 9.5
Belgium	+ 3.3	– 34.1
Denmark	+ 12.3	– 24.2
France	+ 26.2	– 19.1
Germany	+ 9.1	– 18.4
Italy	+ 37.5	– 13.1
Netherlands	+ 5.8	– 21.4
Norway	+ 21.4	– 7.2
Sweden	+ 16.8	– 21.4
U.K.	+ 15.5	+ 13.2

Source: U.S. Labor Dept.

Metals & Metalworking, U.S. Trade Balance, Billions of Dollars

	1982	1983
Total, USA Mfgd. Goods	– $4.8	– $31.2
Metalworking Machinery	– 0.3	– 0.4
General Industrial Machinery	+ 5.0	+ 3.1
Office Machinery, Computers	+ 5.9	+ 4.9
Telecommunication, Sound & Reproducing Equip.	– 5.2	– 7.5
Autos, Buses & Trucks	– 11.1	– 14.3
Iron & Steel Mill Products	– 7.1	– 4.9
Nonferrous Metals	– 3.6	– 5.8
Total, Machinery & Metals	– 1.9	– 17.7

Source: U.S. Commerce Dept.

make jeeps in China. It buys its truck diesels from Nissan. And Nissan has started assembling cars in Japan for Volkswagen.

It is little wonder that one auto industry analyst says that of the 30 companies that make cars in the world, less than half are expected to be around at the turn of the century.

Caterpillar Tractor Co.'s Towmotor Division has agreements with Daewoo Heavy Industries, Ltd. of South Korea to manufacturer lift trucks of Caterpillar design and quality standards. Dealers will sell them under Caterpillar trademarks.

Towmotor is also having large lift trucks made by a Norway producer, and excavators made in W. Germany.

"These steps," said a Caterpillar spokesman, "allow Caterpillar to offer quality products at acceptable prices."

It is this combination of price and quality that domestic manufacturers can't always pull out of the hat on their own. Then they must find a world source where they can buy—and then resell—the product, or join with another company to produce a product with a winning combination.

Shop the World

World sourcing—or shopping the world for the best buy—is now practiced with a vengeance by U.S. manufacturers. It is often no longer just a matter of importing parts or components for a U.S.-made end-user product; it is often a matter of bringing in the whole product.

Onan Corp., a subsidiary of McGraw-Edison Co., has agreed to buy large industrial diesel engines on an original equipment manufacturer basis from Japan's Komatsu Ltd. The agreement starts with 500 units in 1984, then up to 2500 per year eventually. The object: A more world-competitive Onan Corp. in price.

Too, Waterbury Farrell Co., a subsidiary of Textron Inc., shopped worldwide and eventually bought large surface grinders from Nippei Industrial Co. The grinders will be marketed under the Waterbury Farrell brand name. Company executives say the move was made to attain "price competitiveness."

U.S. steel producers are playing the joint venture game with the best of them in their efforts to become more world-competitive in home markets. One case very recently was seen when Wheeling-Pittsburgh Steel Corp. and Nisshin Steel Co., Ltd., bought minority interests in each other.

And National Intergroup, Inc. (NII), has a new 50-50 joint venture with Nippon Kokan which paid $292 million for half interest in NII's steel operations. Other materials beyond steel may eventually be produced by this new venture.

Mergers also strengthen a company's hand in world competition also. The LTV-Republic Steel merger created the nation's second largest steel producer and a tougher company for offshore competitors to face.

Technology Helps

Many U.S. manufacturers have turned to state-of-the-art technology to reduce product costs and raise quality levels and find their places in the sun in the world trade arena. General Electric Co., in its touted Erie, Pa. locomotive plant, for example, has cut production time for traction motors from 16 days to 16 hours.

Too, GM, at its Saginaw Steering Gear Div., is at work on an automated plant set for full production by 1987. It will have the capability of running almost unmanned. Daniel Stainforth, manager of the project, cited "competitive problems in world markets" as the GM motivation in setting up the plant.

GM is not letting up on this modernization drive. The company knows, probably as clearly as any U.S. manufacturing company, that the name of the game is world competition, not intra-industry competition. Recently, GM chairman Roger B. Smith noted that the company spent $33 billion worldwide for plant and equipment from 1979 through 1983.

"This capital," he said, "will assure that we have the products, facilities and financial resources necessary to be successful in worldwide competition."

So, U.S. manufacturers fight back against imports—sometimes by creating imports—but still surviving, and even growing, in the world competitive marketplace.

The long list of ways includes, very importantly, progress in getting labor costs under better control than ever in the past. Charts in this article show U.S. labor costs in manufacturing in a startling falling pattern. Also, in relation to world trading partners—when effects of the bloated dollar are excluded—U.S. manufacturers has done a superior job in containing labor cost (see charts).

Too, a precedent could be set by GM's request to vendors to cut their prices by 3.3 pct over the next 3 years. GM's reason: "Necessity to compete with foreign producers." □

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PRICE & PRODUCTION DATA

(Effective June 11, 1984)

Steel production by districts, thousands of tons (000 omitted)

	Last Week	Two Weeks Ago	Month Ago	Year Ago
North East Coast	245	264	247	210
Pittsburgh	259	287	298	190
Youngstown	121	116	102	94
Lake Erie	159	160	155	121
Detroit	162	161	174	129
Chicago	503	550	581	463
Cincinnati	109	82	124	95
St. Louis	86	88	89	67
Southern	218	225	238	136
Western	91	94	90	86
U.S. Production	1,953	2,027	2,110	1,621

Source: American Iron & Steel Institute

Lake Superior Ore Prices

51.50% Fe Natural delivered lower Lake ports. Rail transportation, handling and unloading may be charged to the account of the buyer. Coarse ore 80¢ premium.

Pellets (per iron unit natural).....gross-ton 80.50-86.9*
Mesabi, regular-unscreened .....gross-ton $32.53
Mesabi, non-bessemer.....gross-ton $30.03-31.53**

*80.50¢—Pickands Mather as of 1/27/81.
86.9¢—U. S. Steel as of 3/15/82. Cleveland-Cliffs as of 2/26/82, Oglebay Norton as of 3/25/82, and Hanna Mining as of 2/26/82.
**Effective 8/1/83.

STEEL PRODUCTION, COMPOSITE PRICES

(Effective June 11, 1984)

U.S. Steel Production	Last Week	Two Weeks Ago	To Date 1984	To Date 1983
Net tons, in thousands	1,953	2,027	45,863	35,173
Capability Utilization Rate	75.2	78.0	77.0	52.8

Composite Prices	This Week	Week Ago	Month Ago	Year Ago
Finished Steel Base* (¢/lb.—eff. 5/14/84)	27.405	27.405	27.405	26.217
Pig Iron* * (Net ton=2000 lbs.)	$213.00	$213.00	$213.00	$213.00
Scrap No. 1 hvy.* * * (Gross ton=2240 lbs.)	$ 85.17	$ 85.17	$ 89.50	$ 70.83
No. 2 bundles	$ 56.83	$ 56.83	$ 60.17	$ 46.50

Scrap Comparison (Gross Ton)

No. 1 steel, Pittsburgh..	$ 94.50	$ 94.50	$100.50	$ 72.50
No. 1 steel, Philadelphia ..	80.50	80.50	82.50	68.50
No. 1 steel, Chicago.....	80.50	80.50	85.50	71.50
No. 1 bundles, Detroit.....	87.50	87.50	92.50	71.50
Low Phos., Youngstown ..	89.50	90.50	98.50	75.50
No. 1 mach'y cast., Pgh...	79.50	79.50	79.50	74.50
No. 1 mach'y cast., Phila .	98.50	100.50	100.50	98.50
No. 1 mach'y cast., Chi..	117.50	117.50	117.50	108.50

*Finished Steel Composite: Weighted index of steel bars, shapes, plates, wire, rails, black pipe, hot and cold rolled sheets and strips.
* *Pig Iron Composite: Based on average prices for basic and foundry pig iron at representative producing points within the U.S.
* * *Steel Scrap Composite: Average of No. 1 hvy. melting steel scrap and No. 2 bundles delivered to consumers at Pittsburgh, Philadelphia and Chicago.

NONFERROUS PRICES

(Effective June 11, 1984) Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated.

Primary Metal Prices

(cents per lb.)	current price	last price	date of change
Aluminum	81.00	76.00-81.00	9/27/83
Copper (C)	69.00-70.00	68.00-70.00	6/6/84
Lead	26.00-28.00	25.00-28.00	6/1/84
Magnesium Ingot	148.00	143.00	5/25/84
Nickel	329.00	350.00	11/25/81
Titanium Sponge	555.00-585.00	555.00	4/29/82
Zinc	52.00-53.00	53.00	5/3/84

ALUMINUM: 99.5%. COPPER (C) = cathode. LEAD: common grade. MAGNESIUM: 99.8% pig, delivered. NICKEL: electro., Port Colborne, Canada. ZINC: high grade.

Antimony, American Laredo, Texas . $2.00
Beryllium-aluminum 5% Be, per lb. contained Be $215.00
Beryllium-copper, per lb. cont. Be $130.00
Beryllium 97% powder 200 ..... $178.00
Cadmium, ton lots $2.25
Calcium, ton lots, crown $3.58
Chromium, 99.8% $3.75
Cobalt, 99%, cathode $12.50
Gold per troy oz. $382.50
Indium, dollars per troy oz..... $2.50-$3.60
Iridium, dollars per troy oz..... $600
Magnesium sticks, 10,000 lbs..... $1.97
Mercury, per 76-lb. f.o.b. N.Y. ..$322-$330
Molybdenum, lb. tech. moly oxides, 20 lb. MO can $6.85
Nickel oxide sinter at U.S. points of entry $3.12
Palladium, per troy oz. $140
Platinum, per troy oz. $475
Rhodium, per troy oz. $600.00
Silver ingots, per troy oz..... $8.80
Vanadium $6.00
Zirconium sponge..... $12.00-$17.00
(Per lb. unless otherwise noted)

Straits Tin Price

(U.S. cents per lb, EX-SMELTER, based on daily market in Penang in Malaysian dollars per kilo.)

June 4—575.30
June 5—574.91
June 6—Holiday
June 7—573.98
June 8—574.37

Scrap Prices
Brass Mill Scrap

(Cents per lb; over 20,000 lbs. add 1¢ per lb)

	Solids	Turning
Copper	64	63½
Yellow brass	59¾	59¾
Red brass	61	61
Comm. bronze	61¼	61¼
Mang. bronze	58	54¼
Free cutting rod ends	60	59

Custom Smelters Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	61
No. 2 copper wire	51
Light copper	42

Ingot Makers Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	57
No. 2 copper wire	47
Light copper	58
No. 1 composition	56
No. 1 comp. turnings	54
Hvy. yellow brass solids	38
Hvy. yellow brass turnings	36
Radiators	46

Aluminum

New mixed clips	45	—46
Old sheet	42	—43
Old cast	42	—43
Clean dry borings	43	—44

Dealers' Scrap

(Dealers' buying price f.o.b. New York in cents per pound)

Aluminum

Segregated clippings	41	—42
Mixed L.C. clips	37	—39
Old sheets and cast	33	—34
Borings and turnings	26	—27
Duraluminum clippings	27	—28

Copper and Brass

No. 1 copper wire	51	—52
No. 2 copper wire	42	—43
Light copper	37	—38
Radiators	36	—37
No. 1 composition	45	—46
No. 1 composition turn'gs	42	—43
Cocks and faucets	31	—32
Clean heavy yellow brass	29	—30
Brass Pipe	30	—31
New soft brass clippings	47	—48

Lead

Heavy soft lead	9	—10
Whole batteries	3	— 4
Type metal	15	—16
Electrotype	13	—14

Nickel

Nickel solids	120	—130
Nickel rod ends	120	—130
Nickel sheets, clips	120	—130
Nickel turnings	60	— 70

Zinc

New zinc clippings	18	— 19
Old diecast zinc	14	— 15

EFFECTIVE JUNE 11, 1984

(Effective June 11, 1984) Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated. Prices are the opinions of *Iron Age* editors and correspondents, based on contacts with dealers, brokers, generators and users in the industry on the effective date listed above.

Ferrous Scrap Prices

Pittsburgh

No. 1 hvy. melting	$ 94.00 to	$ 95.00
No. 2 hvy. melting	84.00 to	85.00
No. 1 dealer bundles	111.00 to	112.00
No. 1 factory bundles (auto)	101.00 to	102.00
No. 2 bundles	59.00 to	60.00
No. 1 busheling	107.00 to	108.00
Machine shop turn	16.00 to	17.00
Shoveling turnings	52.00 to	53.00
Cast iron borings	51.00 to	52.00
Low phos. punchings plate	114.00 to	115.00
Heavy turnings	87.00 to	88.00
No. 1 RR hvy. melting	108.00 to	109.00
Rails 2 ft. and under	122.00 to	123.00
Scrap rails, random lgth	107.00 to	108.00
RR specialties	120.00 to	121.00
No. 1 machinery cast	79.00 to	80.00
Cupola cast	72.00 to	73.00
Heavy breakable cast	30.00 to	31.00
Stainless		
18-8 bundles and solids	600.00 to	610.00
18-8 turnings	500.00 to	510.00

Chicago

No. 1 hvy. melting	$ 80.00 to	$ 81.00
No. 2 hvy. melting	76.00 to	77.00
No. 1 dealer bundles	109.00 to	110.00
No. 1 factory bundles (auto)	112.00 to	113.00
No. 2 dealer bundles	59.00 to	60.00
No. 1 busheling	102.00 to	103.00
Shredder scrap	100.00 to	101.00
Machine shop turn	44.00 to	45.00
Mixed bor. and turn	45.00 to	46.00
Shoveling turnings	51.00 to	52.00
Cast iron borings	51.00 to	52.00
Low phos. forge crop	120.00 to	121.00
Low phos. punchings plate ¼ in. and heavier	131.00 to	132.00
Low phos. 2 ft. and under	125.00 to	126.00
No. 1 RR hvy. melting	102.00 to	103.00
Scrap rails, random lgth	99.00 to	100.00
Reroller rails	107.00 to	108.00
Rails, 2 ft. and under	123.00 to	124.00
RR couplers and knuckles	105.00 to	106.00
RR car axles	129.00 to	130.00
No. 1 machinery cast	117.00 to	118.00
Cupola cast	108.00 to	109.00
Stove plate	106.00 to	107.00
Steel car wheels	115.00 to	116.00
Stainless		
18-8 bundles and solids	555.00 to	565.00
18-8 turnings	455.00 to	465.00
430 bundles and solids	135.00 to	140.00
430 turnings	100.00 to	105.00

Philadelphia

No. 1 hvy. melting	$ 79.00 to	$ 82.00
No. 2 hvy. melting	69.00 to	72.00
No. 1 dealer bundles	90.00 to	93.00
No. 2 dealer bundles	50.00 to	53.00
No. 1 busheling	90.00 to	93.00
Shredder scrap	95.00 to	98.00
Machine shop turn	29.00 to	32.00
Mixed bor. and turn	29.00 to	32.00
Shoveling turnings	43.00 to	46.00
Low phos. 5 ft. and under	95.00 to	98.00
Low phos. 2 ft. punchings	116.00 to	119.00
Electric furnace bundles	109.00 to	112.00
RR specialties	103.00 to	106.00
Rails, 2 ft. and under	117.00 to	120.00
Cupola cast	70.00 to	73.00
Heavy breakable cast	57.00 to	60.00
No. 1 machinery cast	97.00 to	100.00

Detroit

Broker buying prices per gross ton on cars:

No. 1 hvy. melting	$ 60.00 to	$ 61.00
No. 2 hvy. melting	57.00 to	58.00
No. 1 dealer bundles	87.00 to	88.00
No. 2 bundles	40.00 to	41.00
No. 1 busheling	86.00 to	87.00
Drop forge flashings	55.00 to	56.00
Machine shop turn	47.00 to	48.00
Mixed borings and turn	26.00 to	27.00
Shoveling turnings	48.00 to	49.00
Cast iron borings	41.00 to	42.00
Heavy breakable cast	38.00 to	39.00
Mixed cupola cast	54.00 to	55.00
Automobile cast	77.00 to	78.00
Stainless		
18-8 bundles and solids	455.00 to	465.00
18-8 turnings	360.00 to	370.00
430 bundles and solids	110.00 to	120.00

Youngstown

No. 1 hvy. melting	$ 78.00 to	$ 81.00
No. 2 hvy. melting	59.00 to	62.00
No. 1 dealer bundles	91.00 to	94.00
No. 2 dealer bundles	35.00 to	38.00
Machine shop turn	14.00 to	17.00
Shoveling turnings	19.00 to	22.00
Low phos. plate	88.00 to	91.00
Electric furnace bundles	84.00 to	87.00
Galvanized bundles	79.00 to	82.00

Cleveland

No. 1 hvy. melting	$ 70.00 to	$ 73.00
No. 2 hvy. melting	46.00 to	49.00
No. 1 dealer bundles	86.00 to	89.00
No. 1 factory bundles	92.00 to	95.00
No. 2 bundles	28.00 to	31.00
No. 1 busheling	88.00 to	91.00
Machine shop turn	13.00 to	16.00
Mixed bor. and turn	13.00 to	16.00
Shoveling turnings	15.00 to	18.00
Cast iron borings	18.00 to	21.00
Cut structural & plates, 2 ft. and under	113.00 to	116.00
Low phos. punchings plate	113.00 to	116.00
Drop forge flashings	60.00 to	63.00
Foundry steel, 2 ft. & under	70.00 to	75.00
No. 1 RR hvy melting	87.00 to	90.00
Rails, 2 ft. and under	120.00 to	123.00
Rails, 18 in. and under	121.00 to	124.00
Steel axle turnings	67.00 to	70.00
Railroad cast	100.00 to	103.00
No. 1 machinery cast	109.00 to	112.00
Cupola cast	63.00 to	66.00
Stove plate	48.00 to	51.00
Stainless		
18-8 bundles	375.00 to	385.00
18-8 turnings	325.00 to	335.00
430 bundles	80.00 to	85.00

Buffalo

Broker buying prices per gross ton on cars:

No. 1 hvy. melting	$ 71.00 to	$ 72.00
No. 2 hvy. melting	59.00 to	60.00
No. 1 busheling	84.00 to	85.00
No. 1 dealer bundles	84.00 to	85.00
No. 2 bundles	39.00 to	40.00
Machine shop turn	14.00 to	15.00
Mixed bor. and turn	13.00 to	14.00
Shoveling turnings	18.00 to	19.00
Cast iron borings	23.00 to	24.00
Low phos. plate	98.00 to	99.00
Structural and plate, 2 ft. and under	98.00 to	99.00
Rails, 2 ft. and under	94.00 to	95.00
Scrap rails, random lgth	74.00 to	75.00
No. 1 machinery cast	79.00 to	80.00
No. 1 cupola cast	59.00 to	60.00

St. Louis

No. 1 hvy. melting	$ 75.00 to	$ 76.00
No. 2 hvy. melting	64.00 to	65.00
Foundry steel, 2 ft.	71.00 to	72.00
No. 1 dealer bundles	75.00 to	76.00
No. 2 bundles	61.00 to	62.00
Machine shop turn	20.00 to	21.00
Shoveling turnings	26.00 to	27.00
Cast iron borings	29.00 to	30.00
No. 1 RR hvy. melting	75.00 to	76.00
Rails, random length	77.00 to	78.00
Rails, 18 in. and under	94.00 to	95.00
RR specialties	92.00 to	93.00
Cupola cast	74.00 to	75.00
Heavy breakable cast	53.00 to	54.00
Stove plate	98.00 to	89.00
Cast iron car wheels	54.00 to	55.00
Rerolling rails	87.00 to	88.00
Unstripped motor blocks	59.00 to	60.00

Birmingham

No. 1 heavy melting	$ 79.00 to	$ 80.00
No. 2 heavy melting	74.00 to	75.00
No. 1 dealer bundles	79.00 to	80.00
No. 2 bundles	57.00 to	58.00
No. 1 busheling	79.00 to	80.00
Shredder scrap	96.00 to	98.00
Machine shop. turn	37.00 to	38.00
Shoveling turnings	48.00 to	49.00
Cast iron borings	48.00 to	49.00
Electric furnace bundles	70.00 to	71.00
Elec. furnace, 3 ft. & under	75.00 to	76.00
Structural and plate, 2 ft.	103.00 to	104.00
Structural and plate, 4 ft.	94.00 to	95.00
No. 1 RR hvy. melting	94.00 to	95.00
Scrap rails, random lgth	87.00 to	88.00
Rails, 2 ft. and under	107.00 to	108.00
Angles and splice bars	94.00 to	95.00
No. 1 cupola cast	90.00 to	91.00
Unstripped motor blocks	70.00 to	71.00

Cincinnati

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 67.00 to	$ 68.00
No. 2 hvy. melting	61.00 to	62.00
No. 1 dealer bundles	80.00 to	81.00
No. 2 bundles	39.00 to	40.00
Machine shop turn	8.00 to	9.00
Shoveling turnings	10.00 to	11.00
Cast iron borings	25.00 to	26.00
Low phos. 18 in. and under	99.00 to	100.00
Rails, random length	80.00 to	81.00
Rails, 2 ft. and under	95.00 to	96.00
No. 1 cupola cast	68.00 to	69.00
Heavy breakable cast	35.00 to	36.00
Drop broken cast	88.00 to	89.00

New York

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 50.00 to	$ 52.00
No. 2 hvy. melting	41.00 to	43.00
No. 2 dealer bundles	23.00 to	27.00
Mixed bor. and turn	11.00 to	13.00
Machine shop turn	6.00 to	7.00
Shoveling turnings	14.00 to	15.00
Clean cast. chem. borings	35.00 to	36.00
No. 1 machinery cast	89.00 to	90.00
Mixed yard cast	50.00 to	51.00
Heavy breakable cast	10.00 to	12.00
Stainless		
18-8 prepared solids	505.00 to	525.00
18-8 turnings	400.00 to	420.00
430 prepared solids	90.00 to	110.00
410 solids	80.00 to	90.00

Boston

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 65.00 to	$ 66.00
No. 2 hvy. melting	55.00 to	56.00
No. 1 dealer bundles	70.00 to	71.00
No. 2 bundles	39.00 to	41.00
No. 1 busheling	75.00 to	76.00
Shredder scrap	73.00 to	75.00
Machine shop turn	14.00 to	16.00
Shoveling turnings	20.00 to	22.00
No. 1 machinery cast	90.00 to	95.00
Mixed cupola cast	48.00 to	50.00
Heavy breakable cast	18.00 to	20.00

San Francisco

No. 1 hvy. melting	$ 45.00 to	$ 47.00
No. 2 hvy. melting	39.00 to	41.00
No. 1 dealer bundles	35.00 to	37.00
No. 2 dealer bundles	17.00 to	19.00
Machine shop turn	6.00 to	8.00
Cast iron borings	6.00 to	8.00
No. 1 cupola cast	83.00 to	85.00

Los Angeles

No. 1 hvy. melting	$ 46.00 to	$ 48.00
No. 2 hvy. melting	39.00 to	41.00
No. 1 dealer bundles	36.00 to	38.00
No. 2 dealer bundles	17.00 to	19.00
Machine shop turn	10.00 to	12.00
Shoveling turnings	8.00 to	13.00
Cast iron borings	6.00 to	8.00
Elec. furnace, 1 ft. and under (foundry)	77.00 to	79.00
No. 1 cupola cast	77.00 to	79.00

Seattle

No. 1 hvy. melting	$ 71.00 to	$ 73.00
No. 2 hvy. melting	60.00 to	62.00
No. 2 bundles	42.00 to	44.00
No. 1 cupola cast	98.00 to	100.00
Mixed yard cast	85.00 to	87.00

Hamilton, Ont.

Brokers buying price per net ton on cars:

No. 1 heavy melting	$ 90.00
No. 2 heavy melting cut 2 ft. and under	82.00
No. 1 dealer bundles	87.00
No. 2 bundles	48.00
Mixed steel scrap	54.00
Bush. new fact. prep'd.	85.00
Bush. new fact. unprp'd.	75.00
Machine shop turn	45.00
Short steel turn	43.00
Mixed bor. and turn	30.00
Cast scrap	73.00

Houston

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 78.00 to	$ 79.00
No. 2 hvy. melting	64.00 to	65.00
No. 2 bundles	42.00 to	43.00
Machine shop turn	16.00 to	17.00
Crushed turnings	39.00 to	40.00
Shredder scrap	80.00 to	81.00
Cut structural plate, 2 ft. and under	103.00 to	105.00
Cut structural plate, 5 ft. and under	92.00 to	94.00
Unstripped motor blocks	60.00 to	61.00
Cupola cast	80.00 to	81.00

DEFENSE ORDERS RETREAT IN APRIL

Is the air coming out of the nation's economic balloon?

The defense orders part of the country's durable goods orders for April dropped enough to cause pessimists to answer yes to the question. And overall new orders for durable goods dropped 7.5 pct to $97.6 billion compared with March's $104.9 billion.

U.S. Commerce Secretary Malcolm Baldrige said the the country is entering "a more moderate, sustainable growth period" after experiencing 18 months of vigorous rebound.

Capital goods new orders without the defense quotient declined 4.3 pct to $25.8 billion versus $26.9 billion in March, the Commerce Dept. said. Most of the categories declined in April with some notable exceptions.

For example, machine tools new orders rose 22.5 pct to $255.8 million compared with $208.4 million in March. Metal cutting machine tools orders were up 24.5 pct in April to $182.5 million versus $146.5 million the previous month. Metal forming machine tools new orders were up 41.2 pct to $73.3 million compared with $51.9 million in March.

Unchanged compared with March were April new orders for steel ($4.7 billion), metalworking machinery ($8 million) and shipments of farm machinery and equipment ($9 million).

Commerce said inventory rebuilding continued to be strong in April as stocks increased 1.5 pct, the same as in March. Factory inventories have grown 4 pct since January.

Within the major industries declines showed up for transportation equipment and machinery. About three-fourths of the $4.6 billion drop in transportation orders was in aircraft and the rest in autos, an industry undergoing a model year changeover.

A significant increase was in orders for primary metals, mostly aluminum and copper, up 5.3 pct after four months of declines.

Billions of Dollars, Seasonally Adjusted Monthly Total, unless otherwise noted **Source: U.S. Dept. of Commerce**		Latest Month or Qtr.	Previous Month or Qtr.	Same Period Year Ago
CAPITAL EXPENDITURES (Annual Rates)				
U.S. Industry, Total	1st Qtr.	$332.7	$318.8	$293.0
Manufacturing, Total	1st Qtr.	124.7	116.4	109.9
Manufacturing, Durable Goods	1st Qtr.	59.2	54.9	50.7
Mining Industry	1st Qtr.	13.6	12.4	12.0
KEY INDICATORS, Durable Goods Manufacturing				
New Orders	Apr.	97.6	104.9	83.0
Shipments	Apr.	95.0	97.0	80.4
Inventories	Apr.	178.4	176.0	169.9
Unfilled Orders	Apr.	340.0	337.4	299.0
NEW ORDERS, METALWORKING				
Capital Goods Producers, Nondefense Industries	Apr.	25.8	26.9	20.3
Capital Goods Producers, Defense Industries	Apr.	6.4	11.5	4.8
Primary Metals, Total	Apr.	11.9	11.3	8.9
Steel (SIC 331)	Apr.	4.7	4.7	3.5
Iron & Steel Castings (SIC 332)	Apr.	1.4	1.3	1.0
Nonferrous Metals	Apr.	5.8	5.3	4.4
Nonelectrical Mach.-Equip. Industries, Total	Apr.	16.8	18.3	14.8
Engines & Turbines	Apr.	1.1	1.2	0.9
Farm Machinery & Equipment (Shipments)	Apr.	0.9	0.9	0.9
Construction, Mining & Mat. Hdlg. Equip.	Apr.	2.6	2.7	2.1
General Industrial Machinery	Apr.	1.4	1.3	1.1
Fluid Power Equipment** (Index-1972=100)	Apr.	313.0	336.0	210.0
Metalworking Machinery	Apr.	0.8	0.8	0.6
Machine Tools, Total ($ Mill., Unadjusted)***	Apr.	255.8	208.4	118.5
Machine Tools, Metalcutting***	Apr.	182.5	146.5	79.2
Machine Tools, Metalforming***	Apr.	73.3	51.9	39.3
Electrical Mach. & Equip. Industries, Total	Apr.	14.8	16.9	13.2
Elec. Transmission Equip. & Ind. Apparatus	Apr.	2.0	2.1	1.8
Household Appliances	Apr.	1.3	1.4	1.2
Communication Equipment	Apr.	4.2	5.7	4.4
Transportation Equip. Industrial, Total	Apr.	23.8	28.4	20.0
Motor Vehicles & Parts (Shipments)	Apr.	14.6	15.9	11.3
Aircraft, Missiles & Parts	Apr.	7.9	11.3	6.9
Shipbuilding & Military Tanks	Apr.	0.4	0.5	0.8
Fabricated Metal Products, Total	Apr.	10.8	10.9	9.5
Instruments, Total	Apr.	4.8	4.6	4.1

*Est.—Commerce Dept.; **Source: National Fluid Power Assn.; ***Source: NMTBA